Safe Rooms

A safe room, also known as a panic room, is a fortified room that is installed in a private residence or business to provide a safe hiding place for inhabitants in the event of an emergency. Safe rooms are increasingly popular rooms designed to protect occupants from various types of emergencies.

Safe Rooms around the World

In Mexico, where kidnappings are relatively common, some people use safe rooms as an alternative (or a supplement) to bodyguards.

In Israel, bullet- and fire-resistant security rooms have been mandated for all new construction since 1992.

Since the 1980s, every U.S. embassy has had a safe room with bullet-resistant glass.
Perhaps the largest safe room will belong to the Sultan of Brunei. The planned 100,000-square foot room will be installed beneath his 1,788-room, 2,152,782-square foot residence.

Why are safe rooms used? Reasons include:

- to hide from burglars. The protection of a safe room will afford residents extra time to contact police;
- to hide from would-be kidnappers. Many professional athletes, actors and politicians install safe rooms in their houses;
- protection against natural disasters, such as tornadoes and hurricanes. Underground tornado bunkers are common in certain tornado-prone regions of the United States;
- protection against a nuclear attack. While safe rooms near the blast may be incinerated, those far away may be shielded from radioactive fallout. This type of safe room, known as a fallout shelter, was more common during the Cold War than it is today;
- to provide social distancing in the event of a serious disease outbreak; and
- fear of an abusive spouse.

Safe rooms can be traced back as far as the Middle Ages. Castles had a "castle keep," a room located in the deepest part of the castle, which was designed so the feudal lord could hide during a siege. In the United States, safe rooms were used in the Underground Railroad during the 1800s, where secret rooms hid escaping slaves. In the 1920s, hidden rooms stored Prohibition-banned liquor. Safe rooms designed for weather protection have their origins in storm cellars. The features of the modern safe room are mostly derived from fallout shelters during the 1950s, which were created in response to the fear of nuclear attacks.

Various events of the past decade have spurred a rise in the popularity of safe rooms, including New Year's Eve during "Y2K," the terrorist attacks in New York City in 2001, and the subsequent anthrax poisonings that led to fears of civil unrest and war. Yet, it was the 2002 film Panic Room, starring Jodie Foster, that heightened public awareness of safe rooms and their perceived need. In fact, the term "panic room" became the popular name for what were previously known as "safe rooms" as a result of the movie, although companies that create the rooms still prefer to call them "safe rooms."

Today, they have become a status symbol in wealthy areas such as Bel Air and Manhattan, where it is believed there are thousands of such rooms. However, it is difficult to estimate the number of safe rooms because many homeowners will not publicize the existence of their safe rooms. Even real estate agents tend to hide the location of safe rooms, or even the fact that a house contains one, until they know a buyer is serious about purchasing the house.

Location

The safe room's location must be chosen carefully. It should not be located in the basement, for instance, if intruders are likely to enter the house from that location. Ideally, occupants will be closer than the intruders to the safe room at the time that the intrusion has been detected. This way, the occupants will not be forced to cross paths with the intruder in order to reach the safe room, such as in a stairway. Occupants can plan multiple routes to a safe room to avoid detection by the intruder who is blocking the main route.

Design

Safe-room designs vary with budget and intended use. Even a closet can be converted into a rudimentary safe room, although it should have a solid-core door with a deadbolt lock. High-end custom models costing hundreds of thousands of dollars boast thick steel walls, video banks, computers, air-cleaning systems, bulletproof Kevlar®, and protection against bacterial and chemical infiltration.

Recommendations for specific design elements are as follows:

- Doors: These are one of the most critical components of the safe room design. A bullet-resistant door with internal steel framing can weigh several hundred pounds, yet it must operate smoothly, easily, and without fail in an emergency. The hardware must be selected to provide substantial, secure locking without compromising the smooth operation of the door itself. Most importantly, it must allow the door to be secured quickly, preferably from a single control point. The hardware should not be capable of being overridden or tampered with from the outside.
- Floors: Concrete is an adequate material for the floor. In other forms of floor construction, such as wood, it is important to provide supplementary protection suitable to the anticipated type of emergency. As safe room construction often uses heavy materials, it is important to ensure that the floor can support a large load.

- Sound insulation: The attackers may try to verbally coerce the occupants to leave the safe room. Effective sound insulation will limit the ability for such unwanted communication. Also, sound insulation will prevent the intruders from hearing phone conversations between the occupant and police.
- Walls and ceilings: Wall construction that spans from floor to ceiling is generally preferred because of the structural continuity of the framing. Bricks and blocks, while bullet-resistant, can become dislodged from repeated sledgehammer battering. Steel stud walls, braced with additional reinforcing ties, can be faced with steel sheet or bullet-resistant materials, such as Kevlar®. These, in turn, may be covered with tile, sheetrock or other decorative finishes. Steel and Kevlar® panels are available in large sheet sizes. This helps minimize the number of joints that can be potential weak points of an assembly. It is important to not overlook penetrations that may be made for light fixtures, power points or plumbing pipes. Ductwork that passes through protected walls should also be carefully considered to ensure that the security is not breached or they are not used to transfer poisonous gasses into the safe room.
- Cameras and monitors: Concealed cameras located outside the room enable its occupant to secretly monitor the movement and numbers of intruders. Effective camera systems may incorporate one visible camera outside the room so that an intruder disabling the exposed camera may not think to look for hidden cameras.
- Generator: A self-contained power system is standard in most higher-end safe rooms.

Items to keep in a safe room:

- Bottled water and non-perishable foods: There should be a small provision of bottled water and non-perishable foods (such as dried trail mix);
- Communication devices: Ideally, all three of the following devices should be stored in the safe room;
- A cell phone and charger, which are convenient, but they may not operate through thick safe room walls. The charger will not work if no electrical receptacles are installed, so those are required, too;
- A land-line phone: Since cell phones may not work in a safe room, or because they may lose power, a land-line phone is recommended. It should, however, be on a separate line from the rest of the house so that intruders are less likely to disable it;
- A two-way radio;
- Blankets: Occupants might be there for a while, so they might as well be comfortable;
  first aid kit: Even if occupants make it to the safe room, they may have been injured by the intruder en route. It is unlikely that he will allow the occupants to re-enter the room after they leave it to look for band-aids;
- Prescription medication: Small quantities of necessary medications should be stored in the safe room, or else occupants may be forced to surrender their position during a medical emergency. Having a hundred cans of tuna and a flat-screen TV does little good if your only asthma inhaler is left on the kitchen table;
- Flashlights: Severe weather can knock out electricity to the house, or intruders may intentionally cut the power;
- Sanitation supplies: Safe rooms built on a budget often don’t have a toilet. A bucket can be used as a low-cost alternative;
  weapons: If the intruders manage to enter the safe room, occupants should be prepared to defend themselves. Pepper spray is a common choice, and firearms are certainly no less effective; and
- Gas masks, which may become necessary in the event that the intruders force poisonous gas into the safe room. Where an odorless gas might be used, an electronic device may be installed to detect any noxious fumes or poisons.